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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,756	03/13/2001	Gary Lynn Eesley	DP-301709	2710

7590 11/04/2002

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EXAMINER

PATEL, NIHIR B

ART UNIT	PAPER NUMBER
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3743

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/804,756	EESLEY ET AL.	
	Examiner	Art Unit	
	Nihir Patel	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) ____ is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 21-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1 through 7 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 2, 5, 6, 7, 21, 22, 23, 24, 25, 26, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al. Patent No. KR2001035209. Choi discloses a heat spreader plate 12 (see figure 1) to which the component to be cooled are connected; at least two heat conducting fins 14 (see figure 1) that are positioned substantially parallel to one another (see figure 1) and which are connected substantially perpendicular to the heat transfer spreader plate 12 (see figure 1); and at least one foam block 22 (see figure 1 and detail description lines 12-14) that is disposed in the space between parallel fins 14 (see figure 1) wherein the block 22 is formed of reticulated foam to define a highly porous (see figure 1 and detail description lines 12-14), heat conducting, open-celled structure that permits a cooling fluid to flow through the block as the cooling fluid passes across the fins (see figure 1 and detail description lines 12-14).

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Referring to claim 2, Choi shows that the fins 14 (see figure 1) and the foam blocks 22 (see figure 1) are connected to one surface of the heat spreader plate 12 (see figure 1).

Referring to claim 5, Choi shows that the heat spreader plate 12, the fins 14, and the at least one foam block 22 are made from the same or different thermal conducting materials.

Referring to claim 6, Choi shows that the heat spreader plate 12, the fins 14, and the at least one foam block are made from aluminum, copper, graphite, or aluminum-nitride ceramic.

Referring to claim 7, Choi shows that the heat spreader plate 12, the fins 14, and the at least one foam block 22 are made from aluminum.

Referring to claim 21, Choi shows that the fins 14 and the at least one foam block 22 are connected to one surface of the heat spreader plate 12 (see figure 1).

Referring to claim 22, Choi, shows that at least one foam block 22 is further defined as plurality of foam blocks 22 (see figure 1).

Referring to claim 23, Choi shows that the fins 14 are connected to the heat spreader plate 12 through thermal bonding (see figure 1).

Referring to claim 24, Choi shows that the fins 14 are connected to the foam blocks 22 through thermal bonding (see figure 1).

Referring to claim 25, Choi shows that the fins 14 are connected to the foam blocks 22 through thermal bonding (see figure 1).

Referring to claim 26, Choi shows that the fins 14 are connected to the heat spreader plate 12 through thermal bonding (see figure 1).

Referring to claim 27, Choi shows that the fins 14 are connected to the at least one foam block 22 through thermal bonding (see figure 1).

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Referring to claim 28, Choi shows that the fins 14 are connected to the at least one foam block 22 through thermal bonding (see figure 1).

Claim Rejections - 35 USC § 103

3. Referring to claims 3 and 4, the applicant claims an equation used to determine the height and spacing of the fins. It is obvious to one in the ordinary skill of the art that the height and spacing of the fins are a matter of design choice since the height and spacing of the fins depends on the environment the invention is being used in.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Nihir Patel whose telephone number is (703) 306-3463. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful the examiner supervisor Henry Bennett can be reached at (703) 308-0101.

NP
October 24, 2002

Henry Bennett
Supervisory Patent Examiner
Group 2700